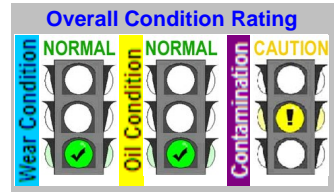


C Code : 32005
 U Name :
 T
 O Address : 104/18 Moo 7, Bangwaek Rd.
 M Bangphai, Bangkhae
 E Bangkok 10160
 R Site : Big C
 Location : Surat Thani
 Test code : 894

Unit ID : **Surat Thani CH 3 Oil Sump**
 Unit Type : Compressor Centrifugal
 Unit Make : CARRIER
 Unit Model : 19XL5050465CN
 Oil type / Viscosity : CASTROL POE 55
 Oil System Capacity : 40 Liters



Notes (Finding, Evaluation, Interpretation, Suggestion and Recommendation)

All wear conditions and wear tests appear in normal working range.
 All oil conditions and oil tests appear in normal working range.
 Minor concentration of water detected in oil.
 Note some test values are near to the Alarm Limits, or slightly over the Alarm Limits, but are not considered serious at this time.
 No oil change recommended at this time, oil appears suitable for further use. Continue routine sampling interval.

Wasan C / Andy Sitton

		Current Sample			Previous Sample		Baseline and Alarm Limit					
Condition History		Wear	Oil	Cont.			Alarm Limit					
		N	N	C			Alarm Limit Matrix -Set Name (Equipment type / oil type)					
		149700					Comp Refrig Carrier Castrol POE 55 (W.Sathaworn)					
Lab ID		Test Method	Result	149700				The New Oil (TNO)				
Bottle ID				106565				RDE fine RFS coarse				
Date Sampled				30-Nov-10				U-Caution U-Warning U-Caution U-Warning				
Oil Hours (Kms)				Not Given								
Unit Hours (Kms)				25852								
Oil Added (Liters)												
Filters Hours (Kms)												
Wear Condition												
Wear Element	Method	Unit	RDE fine	RFS coarse								
Iron	D-6595	PPM	0.1	0.8			0	>5	>10	>10	>20	
Chromium	D-6595	PPM	0.0	0.1			0	>5	>10	>5	>10	
Lead	D-6595	PPM	0.0	0.6			0	>5	>10	>5	>10	
Copper	D-6595	PPM	1.4	2.6			0	>5	>10	>5	>10	
Tin	D-6595	PPM	4.4	0.2			0	>5	>10	>5	>10	
Aluminum	D-6595	PPM	0.6	0.0			0	>5	>10	>5	>10	
Nickel	D-6595	PPM	0.0	0.5			0	>5	>10	>5	>10	
Silver	D-6595	PPM	0.0	0.0			0					
Molybdenum	D-6595	PPM	0.0	0.0			0					
Titanium	D-6595	PPM	0.0	0.0			0					
Oil Condition												
Viscosity @ 40°C	D-445	cSt	49.9			54.8	<27.4	<41.1	>57.5	>60.3		
Viscosity @ 100°C	D-445	cSt										
Oxidation	FTIR	Abs	242.3			232.6						
Nitration	FTIR	Abs	4.6			6.2						
TAN	D-974	mg KOH/g.	0.01			0.01		>0.25	>0.5			
TBN	D-4739	mg KOH/g.										
Contamination												
Water	T-H2O Check™	% (Wt.)	0.045	C			0.010		>0.04	>0.05		
Sodium	D-6595	PPM	0			0						
Silicon	D-6595	PPM	0.3	2.8			0	>5	>15	>5		
Additive Element												
Boron	D-6595	PPM	0			0						
Magnesium	D-6595	PPM	0			0						
Calcium	D-6595	PPM	0			0	>10	>20				
Barium	D-6595	PPM	0			0	>10	>20				
Phosphorus	D-6595	PPM	1			5	>10	>20				
Zinc	D-6595	PPM	0	3			0	>10	>20			
Additional Test												
Flash Point	D-3828	°C										
Viscosity Index	D-2270											

Note: Alarm Limits are variable and dependent upon dataset size and to be used as general guideline.
 No Sign or **N** : NORMAL , **C** or **C** : CAUTION (first level warning limit) , **W** or **W** : Warning (second level warning limit)
 U-Caution : Upper CAUTION Level L-Caution : Lower CAUTION Level First Level Alarm Alert Limit in Upper Level and/or Lower Level
 U-Warning : Upper WARNING Level L-Warning : Lower WARNING required Level Second Level Alarm Alert Limit in Upper Level and/or Lower Level
 Baseline will be data of either "The new oil" or "Reference oil" or "Oil specification". TNO = The new oil , RO = Reference oil , OS = Oil Specification
 Accuracy of interpretation and recommendation are based on representatives sample and information supplied. No warranty is expressed or implied for this report.

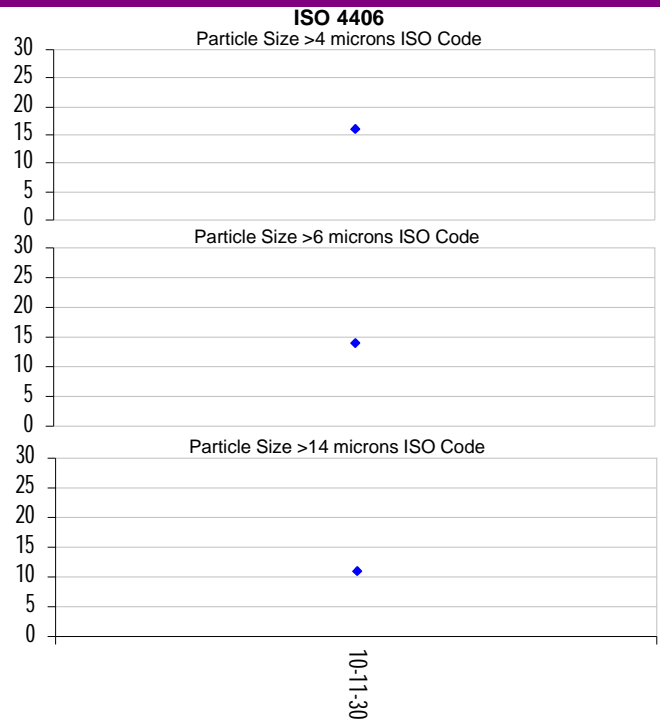
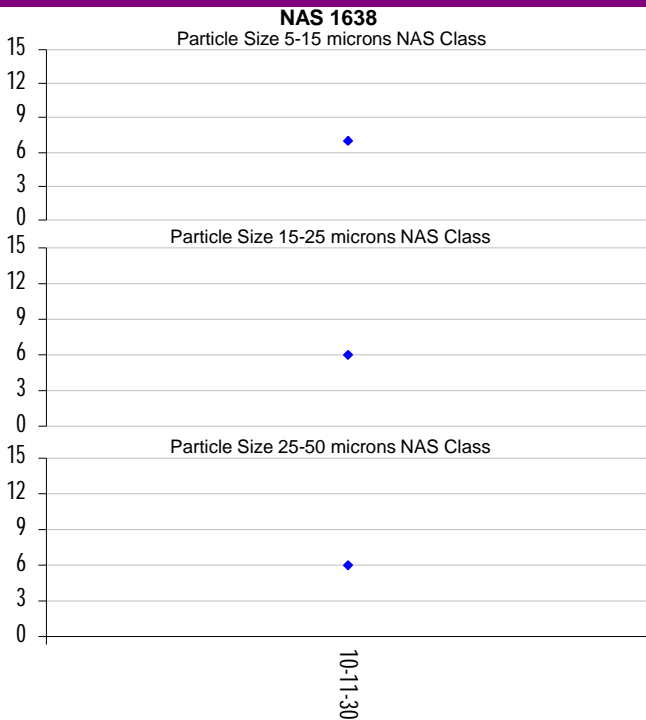
C Code : **32005**
 U S Name :
 T O Address : 104/18 Moo 7, Bangwaek Rd.
 M E Bangphai, Bangkhae
 R Bangkok 10160
 Site : Big C
 Location : Surat Thani
 Test code : 894

Unit ID : Surat Thani CH 3 Oil Sump
 Unit Type : Compressor Centrifugal
 Unit Make : CARRIER
 Unit Model : 19XL5050465CN
 Oil type/ Viscosity : CASTROL POE 55
 Oil System Capacity : 40 Liters

Notes (Finding, Evaluation, Interpretation, Suggestion and Recommendation)

Particle count shows oil cleanliness level acceptable.

Lab ID Bottle ID Date Sampled Oil Hours (Kms) Unit Hours (Kms) Oil Added (Liters) Filters Hours (Kms)	Current Sample		Previous Sample				Particle Count		NAS 1638		ISO 4406	
	149700						BASELINE	Alarm Limit				
	106565						Comp Refrig Carrier Castrol POE 55 (W.Sathaworn)					
	30-Nov-10											
	Not Given											
	25852											
Contamination												
Particle Count NAS 1638 System Standard												
							U-Caution		U-Warning			
Particle Size Range	No. of Particles / 100ml.	Class	No. of Particles / 100ml.	Class	No. of Particles / 100ml.	Class	Class	No. of Particles / 100ml.	Class	No. of Particles / 100ml.	Class	
Particle Size 5-15 microns	17,000	7										
Particle Size 15-25 microns	1,600	6										
Particle Size 25-50 microns	400	6										
Particle Size 50-100 microns	<100	5										
Particle Size >100 microns	<100	3										
Particle Count ISO 4406:1999 System Standard												
Particle Size Range	No. of Particles / ml.	Class	No. of Particles / ml.	Class	No. of Particles / ml.	Class	Class	No. of Particles / ml.	Class	No. of Particles / ml.	Class	
Particle Size > 4 microns	509	16						>1300	18	>2500	19	
Particle Size > 6 microns	143	14						>640	17	>1300	18	
Particle Size > 14 microns	20	11						>80	14	>160	15	
ISO 4406 Class Rating	16/14/11							18/17/14		19/18/15		



C Code : 32005

U Name :

S

O Address : 104/18 Moo 7, Bangwaek Rd.

M Bangkok, Bangkhae

E Bangkok 10160

R Site : Big C

Location : Surat Thani

Test code : 894

E Unit ID : **Surat Thani CH 3 Oil Sump**

O

U

I

P

M

E

N

T

L

Oil type/ Viscosity : CASTROL POE 55

Oil System Capacity : 40 Liters

Lab ID : 149700 Date sampled : 30-Nov-10 Hours on Oil : Not Given Hours on Unit : 25852 Bottle ID : 106565

ส่วนที่ 1 : หน้าหลัก[Section 1 : Main Page](#)

สภาพการสึกหรอและผลทดสอบการสึกหรอทั้งหมด พบว่าอยู่ในช่วงปกติ

คุณสมบัติของน้ำมันและผลทดสอบน้ำมันทั้งหมด พบว่าอยู่ในช่วงปกติ

พบปริมาณเล็กน้อยของน้ำ เจือปนในน้ำมัน

สังเกตค่าผลทดสอบบางอย่างเข้าใกล้ค่าเตือนภัยหรือสูงกว่าเล็กน้อย แต่อาจพิจารณาว่ายังไม่รุนแรงมากนักในขณะนี้

แนะนำว่าไม่จำเป็นต้องเปลี่ยนถ่ายน้ำมันในขณะนี้ น้ำมันยังมีสภาพเหมาะสมที่จะใช้งานต่อไปได้ ยังคงเก็บตัวอย่างอย่างต่อเนื่อง

ส่วนที่ 2 : หน้าที่สอง[Section 2 : Second Page](#)

ผลการตรวจนับจำนวนอนุภาค (Particle Count) นอกจากระดับความสะอาดของน้ำมัน อยู่ในช่วงปกติ-ยอมรับได้

ส่วนที่ 3 : หน้าของ Analytical Ferrography[Section 3 : Analytical Ferrography Page](#)**ส่วนที่ 4 : หน้าของ Gravimetric Page**[Section 4 : Gravimetric Page](#)